Generic Information Collection Request:
Cognitive Interviews for the Commodity Flow Survey & PHMSA:
Expanded Hazardous Materials Data Collection

Request: The Census Bureau plans to conduct additional research under the generic clearance for questionnaire pretesting research (OMB number 0607-0725) for the Commodity Flow Survey (CFS). These activities will include cognitive interviews with respondents to the 2017 CFS to learn whether these respondents are able to answer new questions that are related to the shipment of hazardous materials (HAZMAT), without significantly increasing respondent burden.

The CFS is administered every 5 years through a partnership between the U.S. Census Bureau and the Bureau of Transportation Statistics (BTS). It provides data on the movement of goods in the United States including commodities shipped, their value, weight, and mode of transportation, as well as the origin and destination of shipments of commodities from manufacturing, mining, wholesale, and selected retail and services establishments. These data are used by policy makers and transportation planners to evaluate the demand for transportation facilities and services, energy use, and safety risk and environmental concerns. Additionally, the data collected from CFS are also used to analyze trends in the movement of goods, mapping spatial patterns of commodity and vehicle flows, forecasting demands for the movement of goods, and determining needs for associated infrastructure and equipment.

Further information regarding the Commodity Flow Survey can be found at this website: https://www.census.gov/econ/overview/se0700.html .

The Commodity Flow Survey collects some data pertaining to hazardous materials (HAZMAT). The Pipeline and Hazardous Materials Safety Administration (PHMSA) is the primary regulator of packaging for hazardous materials. The objective of PHMSA is to help ensure the safe transportation of HAZMAT, and to document its movement across the country. By collecting more specific information about HAZMAT via the CFS, it may assist analysts in tracking trends and determining HAZMAT exposure and risk profiles.

PHMSA has experienced a dearth of usable shipment data related to the movement of hazardous material across the United States. Frequently data users are underreporting relevant data that may otherwise improve both a more accurate understanding of the movement of this commodity as well as improve the safety of its transportation.

PHMSA having access to more information about the flow of HAZMAT may also help ensure updated safety standards are being met. For example, there is a list of requirements for shipping HAZMAT by mode of transportation (49 CFR 172.101). Currently, when PHMSA standards are updated and changes are made to this list, without anecdotal evidence, there is no way to measure whether those changes have been implemented. In these instances, safety can be improved by having access to a more consistent flow of data, as well as more detailed information about the transportation of HAZMAT.

PHMSA has an interest in collecting data pertaining to HAZMAT that includes the (a) type of HAZMAT, (b) the packaging used, (c) the weight and (d) its mode of transportation. In collaboration with PHMSA, Census Bureau researchers will explore whether respondents understand the content of the new questions being asked, to learn how respondents anticipate retrieving the requested information, and the perceived difficulty of the questions. Furthermore, researchers would like to better understand the anticipated burden of retrieving the data. With the possibility of CFS becoming an annual survey after 2022, integrating these new HAZMAT related questions into the current CFS data collection may further assist PHMSA in improving the safety of HAZMAT transportation.

Further information regarding the PHMSA can be found at this website: https://www.phmsa.dot.gov/

Purpose: The purpose of this evaluation is to explore whether respondents to the CFS understand the new HAZMAT related questions and to determine the perceived difficulty of answering the new questions. Additionally researchers want to explore how respondents anticipate gathering the relevant information, and what burden may be associated with that retrieval process.

The primary interest of PHSMA is to capture four related pieces of data (a) the type of HAZMAT (b) what container the HAZMAT was packaged in (c) the quantity/weight of the HAZMAT and (d) the mode of transportation. Researchers will conduct cognitive testing to assess the capability of respondents to provide more detailed data on the transportation of hazardous material, respondent's general understanding of the questions and explore the potential effects on respondent burden by providing more detailed data on HAZMAT packaging, quantity and mode of transport.

The results from these cognitive interviews will be consolidated into a report that outlines the findings and suggestions for next steps.

Population of Interest: U.S. companies that ship goods, across a variety of sizes, industries, and locations.

Timeline: Testing will begin in June 2020 and will likely conclude by August 2020.

Language: Testing will be conducted in English only.

Method: We plan to conduct a combination of phone and in-person[1] cognitive interviews with approximately 30 respondents. We will be asking cognitive questions which have a broader focus on the respondents' understanding and familiarity with the concepts and questions being asked, how respondents expect to retrieve the information, respondent's perception of difficulty of the question and the what level of burden might be associated with data retrieval. In-person interviews will take place at the respondent's location. The locations for each round have not yet

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[1] Testing locations to be determined.

been selected, but they will be determined based on where we expect to find companies who are most likely to have HAZMAT transportation. We will request that the cognitive interviews be audio recorded with the participants' permission (see attachment B), to aid researchers in accurately summarizing key findings from the interviews. The cognitive interviews will follow a semi-structured interview protocol (Attachment A).

> COVID-19 Contingency Methodology: Due to the Coronavirus, it may be impossible to meet with respondents in person. Virtual meetings with respondents may be conducted over Skype for Business. Participants will be sent a link to the online instrument via Skype and follow instructions on how to screen-share with researchers. Sessions will be recorded using Camtasia Studio to facilitate post hoc analysis. These recordings will capture the actions taken on the screen as well as audio (participants' faces will not be seen or captured on recordings).

Sample: We plan to conduct a total of 30 interviews across two rounds of testing. This number of interviews was selected because it is a manageable number of interviews for the time period allotted, and should be large enough to provide reactions to the questions and definitions that are representative of the survey population. We plan to conduct interviews with a variety of sizes and types (i.e., industries) of business establishments. Efforts will be made to sample respondents across industries representative of companies that participated in the CFS and with an emphasis on those that indicated they had HAZMAT transportation. The sampling frame for these interviews comes from a list of companies that participated in the 2017 CFS.

Recruitment:
We will contact potential interviewees via phone or email, explain the nature of our research, and ask them to participate in our study. The sample of participants will be those who are able to be contacted and who agree to participate in the study. Participants will be informed that their response is voluntary and that the information they provide is confidential and will be seen only by Census Bureau employees involved in the research project. We will not be providing monetary incentives to participants in this study. Once interviews are scheduled, researchers will send respondents a confirmation via email, and may conduct reminder calls a few days before the meetings.

Protocol: The protocol for the study is enclosed (see Attachment A). We anticipate that each interview will take 60 minutes to complete.

Use of Incentive: Monetary incentives for participation will not be offered.

Below is a list of materials to be used in the current study:

1. **Attachment A:** <u>Protocol</u> used to outline how the research study will be conducted
2. **Attachment B:** <u>Consent form </u>to obtain participant consent for participation and recording of the session
3. **Attachment C:** <u>Screenshots </u>of the questionnaire mockup and questions that participants will navigate through

4. **Attachment D:** <u>2017 CFS survey</u> to illustrate the survey being considered for collecting this data

Length of interview: For the cognitive testing, we expect that each interview will last no more than 60 minutes (30 cases x 60 minutes per case = 30 hours). Additionally, to recruit respondents we expect to make up to 5 phone contacts per completed case. The recruiting calls are expected to last on average 3 minutes per call (5 attempted phone calls per completed case x 30 cases x 3 minute per case = 7.5 hours). Thus, the estimated burden for this project is 37.5 hours (30 hours for interviews + 7.5 hours for recruiting).

The contact person for questions regarding data collection and statistical aspects of the design of this research is listed below:

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